Unique Micro Design

Model M280 and M281
Serial Wedge
User Manual

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Revision History

Date	Issue	Comments
10/03/94	2	Second Release New Format

Table of Contents

Scope

This manual provides installation and operation details for Unique Micro Design's *Model 280 and 281 Serial Wedges*.

Overview

The Unique Micro Design *Model 280 and 281 Serial Wedges* insert a serially decoded bar code scanner (and other serial devices) between a host computer and terminal.

The *Serial Wedge* is a non-intelligent active device which drives the scanner's serial data to the host at RS232 levels. The connected terminal communicates transparently with the host through the *Serial Wedge*. The scanner's data is accepted by the host as if it were entered from the terminal.

Power is also provided on the scanner port to operate the attached bar code scanner.

The *Serial Wedge* enables bar code scanners to be added to a system without the need to alter software. Whenever the program expects terminal input it can accept data from the scanner.

Model 280 and Model 281 differences

There are two models of *Serial Wedge* available, the *Model 280* and *Model 281*. The only difference between the two models is the connector used for the scanner port. The *Model 280* uses the Unique Micro Design standard DB9 plug and the *Model 281* uses a DB25 socket (DCE).

Description

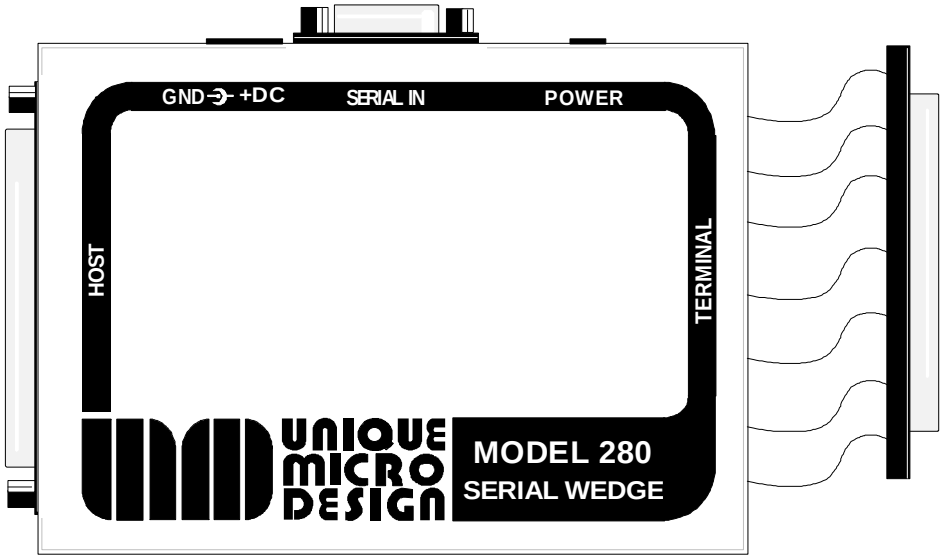
The *Serial Wedge* has three serial interface connectors, a DC power socket and a power indicator.

The DB25 plug is termed the *"Terminal Port"* and is configured as a *Data Communication Equipment (DCE)* interface. This end plugs directly into the terminal's modem port or Host connector port.

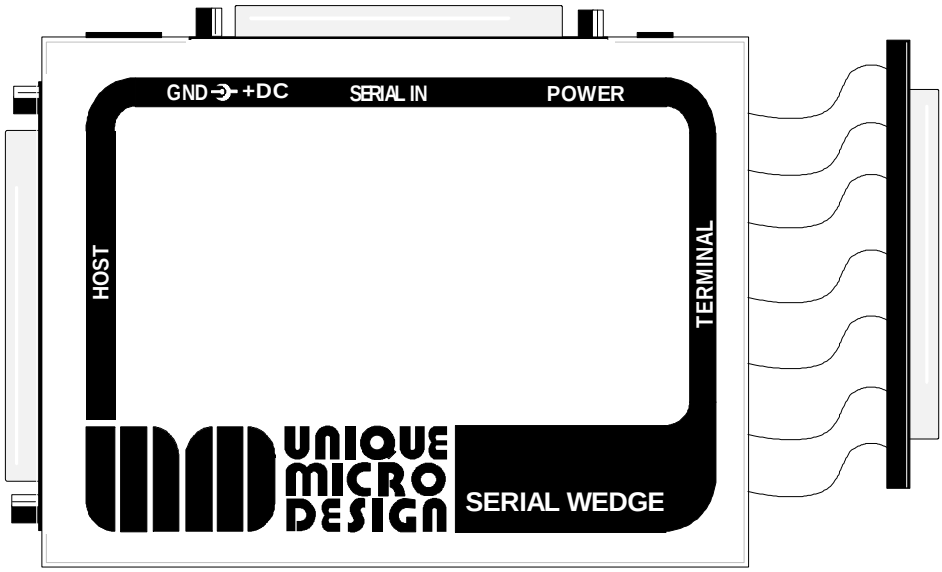
The DB25 socket termed the *"Host Port"* is opposite the Terminal Port. It is configured as a *Data Terminal Equipment (DTE)* interface. This connector looks like the terminal's modem port. A cable designed to interface with a terminal would plug into this connector.

"Serial In" is to the left of the DC power connector, and is refered to as the **"Scanner Port"**. This port interfaces to a serially decoded bar code scanner (or other serial device). With the *Model 280* this connector is a DB9 plug and with the *Model 281* this connector is a DB25 socket.

The power indicator is to the left of the scanner port and is lighted whenever power is available.

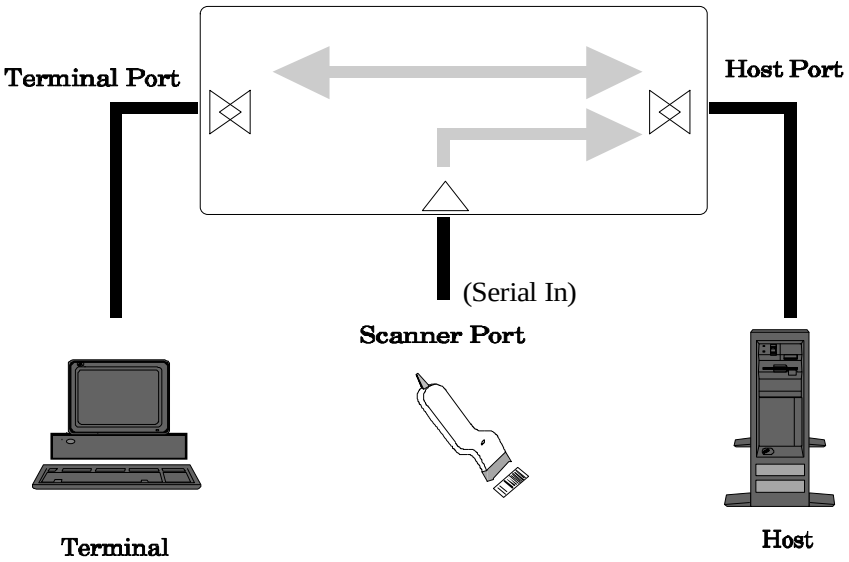


Model 280 Serial Wedge



Model 281 Serial Wedge

Installation



Model 280/281 Serial Wedge

To connect the *Model 280 or 281 Serial Wedge* to a computer system, follow these steps:

1) Ensure that the computer and terminal is not powered.

2) Configure the *Serial Wedge* by way of the internal jumpers (see following pages).

3) Disconnect the terminal from the host system.

4) Connect the *Serial Wedge's* terminal port to the host port of the terminal.

5) Reconnect the cable from the host to the host port of the *Serial Wedge*.

6) Plug the serial device into the scanner port of the *Serial Wedge*.

7) Power the *Serial Wedge* by connecting a powered plug pack. The red power indicator should light to show that the device is powered.

8) Check that the bar code scanner is being powered by the *Serial Wedge*.

9) Configure the bar code scanner to communicate with the same serial transmission parameters as that configured for the terminal.

10) Turn on the terminal and computer. The system should now operate as usual and any receipt of characters on the *Serial Wedge's* scanner interface will be put to the system.

Internal jumpers

There are four internally accessible jumpers on the *Serial Wedge* labelled 1 to 4 located on header connector H5. These are used to indicate what mode the *Serial Wedge* is to operate in and to optionally enable transmission to the scanner. They are accessed by unscrewing four screws on the base of the *Serial Wedge* and removing the top. The default setting is Mode 1.

Scanner output destination and handshake

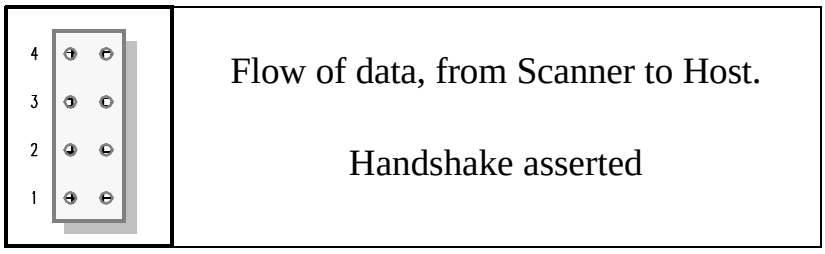
Jumpers 2, 3 and 4 select the mode (1 to 8). The mode determines the destination of the output from the scanner and the associated output handshake.

Data always flows from Host to Terminal and Terminal to Host.

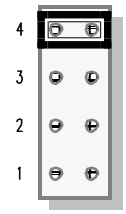
The scanner port *output* handshake (DTR) is on pin 4 for the the *Model 280* and pin 5 on the *Model 281*

When 3 wire transmission is used (eg Xon, Xoff) pins 20 and 5 on the host side may need to be shorted to enable terminal transmission. See Appendix A.

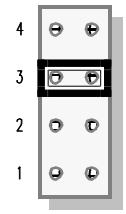
Mode 1



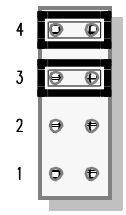
Mode 2

	Flow of data, from Scanner to Host. Handshake derived from Host pin 5

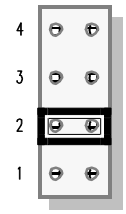
Mode 3

	Flow of data, from Scanner to Terminal. Handshake asserted

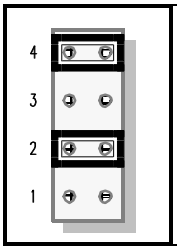
Mode 4

	Flow of data, from Scanner to Terminal. Handshake derived from Terminal pin 20

Mode 5

	Flow of data, from Scanner to Host and Terminal. Handshake asserted

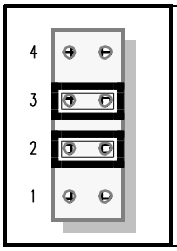
Mode 6



Flow of data, from Scanner to Host and Terminal.

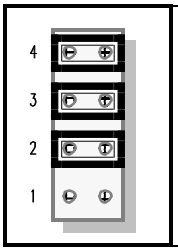
Handshake derived from Host pin 5 and Terminal pin 20

Mode 7



Reserved

Mode 8



Reserved

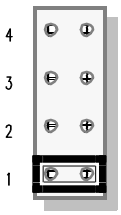
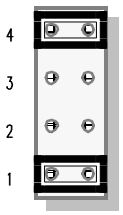
Grounding link

An option is provided to connect *frame ground* to *signal ground* by placing a link in header H3

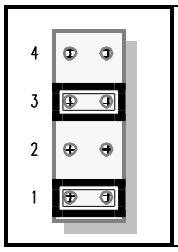
Transmission to Scanner Port

Jumper 1 on H5 is used to enable transmission to the scanner port from either the host or terminal ports, dependent on the selected mode. The default setting is jumper 1 removed which disables transmission to the scanner port

Scanner port *input* handshake (CTS) is derived from pin 8 for the *Model 280* and pin 20 for the *Model 281*.

Mode 1		Mode 2	
	Flow of data, from Host to Scanner. Scanner handshake ignored		Flow of data, from Host to Scanner. Scanner handshake applied to Host Pin 5

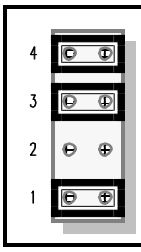
Mode 3



Flow of data, from Terminal to Scanner.

Scanner handshake ignored

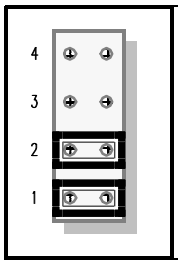
Mode 4



Flow of data, from Terminal to Scanner.

Scanner handshake applied to Terminal pin 20

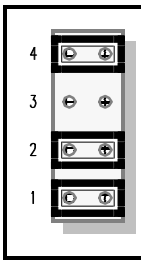
Mode 5



Flow of data, from Host & Terminal to Scanner.

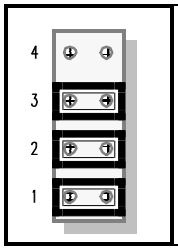
Scanner handshake ignored

Mode 6



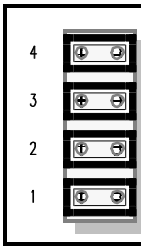
Flow of data, from Host & Terminal to Scanner.
Scanner handshake applied to Host pin 5 and Terminal pin 20

Mode 7



Reserved

Mode 8



Reserved

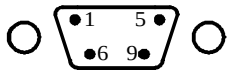
Model 280 Scanner port (DTE)

The serial port is a full duplex RS232 interface that uses +/- 9 volt levels. Five volt DC power is provided on the interface to allow bar code scanners to be powered.

Pin	I/O	Description
1	-	no connection
2	i/p	RxD
3	o/p	TxD
4	o/p	DTR
5	-	Ground
6	-	no connection
7	o/p	+5V Power
8	i/p	CTS
9	-	no connection

M280 Serial Interface

M280 Scanner Port



Front view of DB9 Plug

Model 281 Scanner port (DCE)

The serial port is a full duplex RS232 interface that uses +/- 9 volt levels. Five volt DC power is provided on the interface to allow Nippondenso bar code scanners to be powered.

Pin	I/O	Description
1	-	shield
2	i/p	TxD
3	o/p	RxD
4	-	no connection
5	o/p	CTS
6	-	no connection
7	-	Ground
16	o/p	+ 5V Power
20	i/p	DTR

M281 Serial Interface

M281 Scanner Port

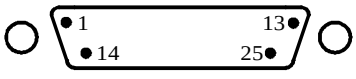
Front view of DB25 Socket

Host (DTE) and Terminal (DCE) ports

Terminal Port DB25P male DCE		Host Port DB25S female DTE
	1 — Shield — 1	
i/p	2 — TxD — 2	o/p
o/p	3 — RxD — 3	i/p
	4 — 4	
o/p	5 — CTS — 5	i/p
	6 — 6	
	7 — Ground — 7	
	8 — 8	
	9 — 9	
	10 — 10	
	11 — 11	
	12 — 12	
	13 — 13	
	14 — 14	
	15 — 15	
	16 — 16	
i/p	20 — DTR — 20	o/p

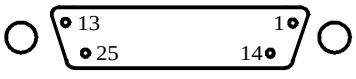
Terminal and Host port pin consignments

Terminal Port



Front view of DB25 Plug

Host Port



Front view of DB25 Socket

Specifications

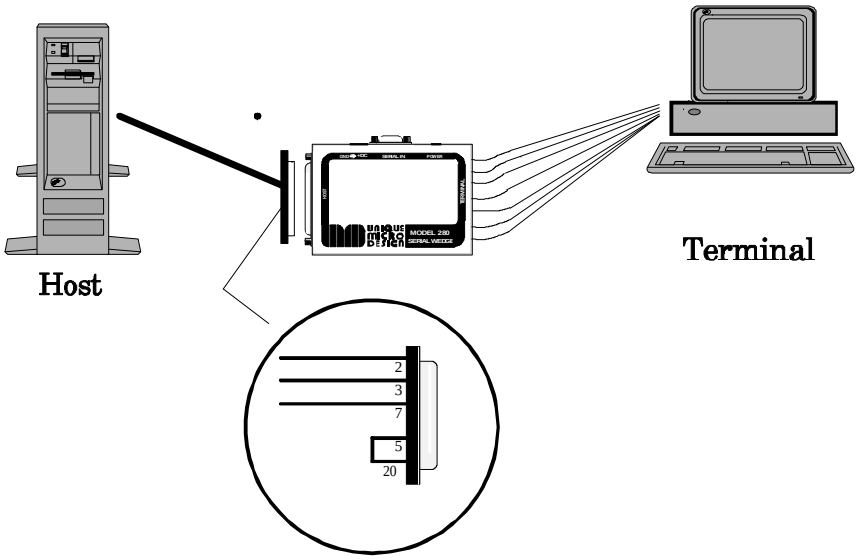
Physical	Dimensions	82 x 111 x 38 mm
	Enclosure	Moulded ABS plastic
	Colour	Two tone (white/gray)
Power	Source	via external Plug Pack (supplied with each unit)
	Input Voltage	7 - 10 V dc
	Input Current	600 mA (max) 100 mA (Typical)
	Connector	2.0mm DC Jack (centre negative)
	Indicator	LED power indicator
Communication Ports	Host Port	DB25 Socket (DTE)
	Terminal Port	DB25 Plug (DCE) (1 meter cable included to terminal)
Scanner Port (Serial In)	Model 280	DB9 Plug (DTE)
	Model 281	DB25 Plug (DCE)
	Power Out	+5Vdc 500 mA (max) for scanners

Ordering Information

Product Code	Model	Description
9-0280-200-9	K280	M280 DB9 Serial Wedge Kit
9-0281-200-4	K281	M281 DB25 Serial Wedge Kit
6-0280-993-5	DOC-M280-UM	User Manual M280 Series (this document)
6-0280-992-7	DOC-M280-PD	M280 Product Description
1-6000-262-3	PP9D600-A	M280 series Plug Pack
6-0280-200-2	M280	M280 Unit only
6-0281-200-1	M281	M281 Unit only

Appendix A

Cable modification that may be required when M280 Serial Wedge is used with 3 wire transmission.



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